AMENDMENTS TO THE CLAIMS

1.   (Currently Amended) A method for allocating bandwidth of a data network to a plurality of data streams, comprising:

specifying apportionment of the bandwidth to a plurality of data classes, wherein each class of the plurality of data classes corresponds to a node in a hierarchical policy tree;

receiving a plurality of data streams;

determining a particular data class that corresponds to a particular data stream;

wherein one or more other data streams that are associated with the particular data class are currently being transmitted;

determining a plurality of acceptable transfer rates for the particular data stream;

negotiating a transfer rate for the particular data stream from the plurality of acceptable transfer rates;

wherein negotiating a transfer rate for the particular data stream includes selecting a transfer rate that (a) does not exceed the bandwidth apportioned to the particular data class that is not being used by the one or more other data streams, and (b) does not cause the transfer rates of the one or more other data streams to go below minimum acceptable transfer rates of the one or more other data streams; and

transmitting the particular data stream on the data network at the negotiated transfer rate;

detecting termination of the particular data stream;

in response to detecting termination of the particular data stream, determining whether another data stream from said particular data class is able to use bandwidth that was allocated to the terminated data stream, and if so, allocating the bandwidth to the other data stream;

in response to detecting that no data stream from said particular class is able to use bandwidth that was allocated to the terminated data stream, performing the steps of

(a) selecting an existing data stream based, at least in part, on where the node that corresponds to the data class of the existing data stream is, within the hierarchical policy tree, relative to where the node of the class of the terminated data stream is, within said hierarchical policy tree; and

(b) increasing the bandwidth allocated to said existing data stream[[.]]:

wherein the method is performed by one or more processors.

2.   (previously presented) The method of claim 1 wherein the step of receiving comprises

steps of:

receiving stream annotations associated with each of the data streams;

using a stream annotation associated with the particular data stream to select a plug-in of
a plurality of plug-ins; and

activating the plug-in to receive each data stream.

3.   (cancelled)

4.   (previously presented) The method of claim 1 wherein the step of transmitting comprises

steps of:

transforming information content within the particular data stream to the negotiated
transfer rate; and

transmitting the data stream on the data network at the negotiated transfer rate.

5.   (previously presented) The method of claim 4 wherein the step of transforming comprises

a step of thinning, transcoding or decimating the particular data stream to the negotiated transfer

rate.

6.   (previously presented) The method of claim 1 wherein the transfer rate is a first transfer

rate, the method further comprising steps of:

determining an amount of unallocated bandwidth on the data network;

negotiating a second transfer rate for a first data stream, wherein the second transfer rate
uses the unallocated bandwidth;

transforming the first data stream to the negotiated second transfer rate; and

transmitting the first data stream on the data network at the second transfer rate.

7.   (previously presented) The method of claim 6 further comprising steps of:

receiving a second data stream;

determining a second data class that corresponds to the second data stream;

negotiating a third transfer rate for the first data stream, wherein the third transfer rate is limited to the bandwidth apportioned to the particular data class;

negotiating a fourth transfer rate for the second data stream, wherein the fourth transfer rate is limited to the bandwidth apportioned to the second data class; and

transmitting on the data network, the first data stream at the third transfer rate and the second data stream at the fourth transfer rate.

8-20   (cancelled)

21.   (Currently Amended) ~~In a data network~~ A media device configured to~~:~~

transmit data streams at negotiated transfer rates, wherein a negotiated transfer rate is limited to bandwidth apportioned to one of a plurality of data classes for each data stream~~, an improvement comprising:~~:

wherein each class of the plurality of data classes ~~corresponding~~ corresponds to a node in a hierarchical policy tree;

~~allocating~~ allocate bandwidth to the data streams by negotiating a transfer rate for each of the plurality of data streams from a plurality of acceptable transfer rates, the plurality of acceptable transfer rates provided by plug-ins prior to transmitting each data stream at the negotiated transfer rate;

~~detecting~~ detect termination of a particular data stream;

in response to detecting termination of the particular data stream, ~~determining~~ determine whether another data stream from said particular data class is able to use bandwidth that was allocated to the terminated data stream, and if so, ~~allocating~~ allocate the bandwidth to the other data stream;

in response to detecting that no data stream from said particular class is able to use bandwidth that was allocated to the terminated data stream~~:~~~~, performing the steps of~~

(a) ~~selecting~~ select an existing data stream based, at least in part, on where the node that corresponds to the data class of the existing data stream is,

within the hierarchical policy tree, relative to where the node of the class of the terminated data stream is, within said hierarchical policy tree; and

(b) ~~increasing~~ increase the bandwidth allocated to said existing data stream.

22.   (Previously Presented) A system for allocating bandwidth of a data network to a plurality of data streams, the system comprising:

one or more processors;

means, operatively coupled to the one or more processors, for specifying apportionment of the bandwidth to a plurality of data classes;

means, operatively coupled to the one or more processors, for receiving a plurality of data streams;

means, operatively coupled to the one or more processors, for determining a particular data class that corresponds to a particular data stream, wherein each class of the plurality of data classes corresponds to a node in a hierarchical policy tree;

means, operatively coupled to the one or more processors, for determining a plurality of acceptable transfer rates for the particular ~~a~~ data stream;

means, operatively coupled to the one or more processors, for negotiating a transfer rate for the particular data stream, wherein the transfer rate is a selected one of the plurality of acceptable transfer rates;

means, operatively coupled to the one or more processors, for detecting termination of the particular data stream;

means, operatively coupled to the one or more processors, for determining whether another data stream from said particular data class is able to use bandwidth that was allocated to the terminated data stream in response to detecting termination of the particular data stream, and if so, allocating the bandwidth to the other data stream;

means, operatively coupled to the one or more processors, for performing the steps of

(a) in response to detecting that no data stream from said particular class is able to use bandwidth that was allocated to the terminated data stream, selecting an existing data stream based, at least in part, on where the node that corresponds to the data class of the existing data stream is, within the

hierarchical policy tree, relative to where the node of the class of the

terminated data stream is, within said hierarchical policy tree; and

(b) increasing the bandwidth allocated to said existing data stream.

23.   (Currently Amended) A <u>computer-implemented</u> method for allocating bandwidth of a

data network to a plurality of data streams, comprising:

apportioning the bandwidth to a plurality of data classes;

receiving a plurality of data streams each associated with one of the plurality of data

classes, wherein each class of the plurality of data classes corresponds to a node

in a hierarchical policy tree;

from a plurality of acceptable transfer rates, negotiating a transfer rate for each data

stream, wherein the transfer rate is limited to the bandwidth apportioned to the

data class associated with each data stream; and

transmitting the data streams on the data network at the negotiated transfer rates;

detecting termination of the particular data stream;

in response to detecting termination of the particular data stream, determining whether

another data stream from said particular data class is able to use bandwidth that

was allocated to the terminated data stream, and if so, allocating the bandwidth to

the other data stream;

in response to detecting that no data stream from said particular class is able to use

bandwidth that was allocated to the terminated data stream, performing the steps

of

(a) selecting an existing data stream based, at least in part, on where the node that

corresponds to the data class of the existing data stream is, within the

hierarchical policy tree, relative to where the node of the class of the

terminated data stream is, within said hierarchical policy tree; and

(b) increasing the bandwidth allocated to said existing data stream[[.]]<u>;</u>

<u>wherein the method is performed by one or more processors.</u>

24.   (Currently Amended) A <u>computer-implemented</u> method for allocating bandwidth of a

data network to a plurality of data streams, comprising:

specifying apportionment of the bandwidth to a plurality of data classes;

receiving a plurality of data streams for a plurality of plug-ins;

wherein each plug-in of the plurality of plug-ins is associated with a data class of the
plurality of data classes;

wherein each data stream is associated with one of the plurality of data classes;

wherein each class of the plurality of data classes corresponds to a node in a hierarchical
policy tree;

from a plurality of acceptable transfer rates for each associated plug-in, negotiating a
transfer rate for each data stream;

wherein the transfer rate of the data stream for each plug-in is limited to the bandwidth
apportioned to the data class associated with the particular plug-in; and

transmitting the data streams on the data network at the negotiated transfer rates;

detecting termination of the particular data stream;

in response to detecting termination of the particular data stream, determining whether
another data stream from said particular data class is able to use bandwidth that
was allocated to the terminated data stream, and if so, allocating the bandwidth to
the other data stream;

in response to detecting that no data stream from said particular class is able to use
bandwidth that was allocated to the terminated data stream, performing the steps
of

(a) selecting an existing data stream based, at least in part, on where the node that
corresponds to the data class of the existing data stream is, within the
hierarchical policy tree, relative to where the node of the class of the
terminated data stream is, within said hierarchical policy tree; and

(b) increasing the bandwidth allocated to said existing data stream[[.]];

wherein the method is performed by one or more processors.